

(Practitioner's Docket No. IN-5525/BC1-0056)

**REMARKS**

1. **Rejection of claims 1, 3, 4, 6-8, 10-15, 20-27, 29-31, 33-37 and 40-42 under 35 U.S.C. §102(b) as anticipated by Song et al, U.S. 6,147,144, hereafter "Song" or "144".**

The rejection based on Song has been maintained. The basis of the rejection is understood to be as follows:

Song et al. disclose electrodeposition coating composition comprising cationic resins, blocked isocyanate crosslinkers and less than 2% VOC (abstract). These compositions are further taught as comprising cationic tertiary amine functional resins with a functional group content meeting applicants' limitations and a degree of neutralization of 20-100% (column 6, lines 48-49 and synthetic example 1). Particle sizes and percent solids such as claimed instantly are taught at claim 6. Applicants claimed corrosion resistance and gloss retention properties are seen as inherent to the compositions of the reference due to their meeting the chemical limitations of the instant claims.

*(Office Action of 1/27/05, pages 2 & 3)*

Applicants greatly appreciate the detailed basis of rejection but must respectfully disagree.

To anticipate a claim, a single source must contain all of the elements of the claim. *Hybritech Inc. v. Monoclonal Antibodies, Inc.*, 231 U.S.P.Q. 81, 90 (Fed. Cir. 1986). Song fails to satisfy this standard in regards to the invention of Applicants' original independent claim 1.

As set forth in the Background section of the instant Application, many prior art low VOC aqueous dispersions have traditionally required costly and expensive stripping operations during their manufacturing process. The invention of Applicants' independent claim 1 provides a solution to this problem by providing a particular aqueous dispersion that has a reduced quantity of volatile organic solvent.

Applicants' invention achieves this goal with the use of two particular elements set forth in independent claim 1. As specified in independent claim 1, Applicants' invention first requires a very specific crosslinking agent (b) and second, a polymer (a) and a crosslinking agent (b) that have been incorporated together in a very specific way. In particular, Song cannot anticipate the invention of Applicants' independent

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claim 1 unless it (1) discloses a crosslinking agent (b) having a  $T_g$  of from 40 to 70°C/105 to 158°F that is a solid at 23.9°C/75°F when at 100% solids and (2) discloses an aqueous dispersion wherein polymer (a) and crosslinking agent (b) have been melt mixed.

It is respectfully submitted that Song fails to disclose both of these required elements.

First, Song fails to disclose a crosslinking agent (b) that is a solid at 23.9°C/75°F when at 100% solids and has a  $T_g$  of from 40 to 70°C/105 to 158°F.

As indicated above, the PTO appears to take the position that any 'blocked isocyanate crosslinking agent' anticipates Applicants' crosslinking agent (b). However, to do so is to ignore both Federal Circuit precedent and the plain language of Applicants' independent claim 1.

A rejection for anticipation under section 102 requires that each and every limitation of the claimed invention be disclosed in a single prior art reference. *In re Paulsen*, 31 U.S.P.Q.2d 1671 (Fed Cir. 1994). There must be no difference between the claimed invention and the disclosure, as viewed by a person of ordinary skill in the field of the invention. *Scripps Clinic & Res. Found. v. Genentech Inc.*, 18 U.S.P.Q.2d 1001 (Fed. Cir. 1991).

Nothing in Song discloses or suggests that a 'suitable' crosslinking agent is characterized by either a specific  $T_g$  range or a solid state at 75°F, let alone both as required by Applicants. Rather, Song merely provides two structures as illustrative of a suitable blocked polyisocyanate crosslinking agent. See '144, col 4, lines 38- 67, and col. 5, lines 26. In fact, Song is like EP '818 in that it provides no guidance whatsoever as to the desirable  $T_g$  range for a crosslinking agent. This information is obtained only with the hindsight benefit of Applicants' teachings.

Nor does Song inherently disclose Applicants' particularly required crosslinking agent (b). To support an anticipation rejection based on inherency, an examiner must provide factual and technical grounds establishing that the inherent feature necessarily flows from the teachings of the prior art. *Ex parte Levy*, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Int'l 1990). In the absence of any statements by the PTO, it is respectfully submitted that Song is devoid of any teachings that can be used to show

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that the selection of Applicants' particularly required crosslinking agent (b) *necessarily flows from its teachings.*

Second, Song fails to disclose an aqueous dispersion wherein polymer (a) and crosslinking agent (b) have been melt mixed.

As indicated on page 26, paragraph [000118] of Applicants' Specification, 'melt mixing' refers to the incorporation of solid crosslinker pellets into a heated mixture of a polymer (a).

In contrast, Song teaches in col. 12, lines 15-16 that the crosslinking agent exists as a solution in MIBK. Thus, Song teaches that instead of melt mixing, a solution of the crosslinking agent and volatile organic solvent is reacted with an organic solvent solution containing a polymer to provide the disclosed cationic electrodeposition coat. In fact, Song teaches that a stripping step is required. See '144, col. 13, lines 2-5. Thus, Song exemplifies the prior art problems that Applicants' invention resolves.

As a result, it is respectfully submitted that Song fails to disclose all of the required elements of the invention set forth in Applicants' independent claim 1. In particular, Song first fails to disclose a crosslinking agent (b) that is a solid at 23.9°C/75°F when at 100% solids and has a T<sub>g</sub> of from 40 to 70°C/105 to 158°F and second fails to disclose an aqueous dispersion wherein polymer (a) and crosslinking agent (b) have been melt mixed.

In response, the PTO has stated:

[i]t is the position of the examiner that the crosslinking agents of the reference would inherently possess applicants's claimed physical properties since the molecular weight of these crosslinkers falls within the range specified as suitable by applicants.

Applicants' limitation to melt mixing is a process step within a claim for a product. Applicants need demonstrate that this process step produces a patentably distinct product from that of the reference.

*(Office Action of 8/24/05, page 2.)*

Applicants greatly appreciate the PTO's reasoned response, but must respectfully continue to disagree.

First, the Undersigned has been unable to locate any disclosure in Song of a molecular weight range for Song's crosslinking agents, i.e., the blocked polyisocyanate,

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i.e., see '144, col. 4, lines 38-39. Rather, Song appears to be silent as to any suggested molecular weight range for the blocked polyisocyanate crosslinking agents. Instead, the only disclosure of a molecular weight range appears to relate solely to the disclosed fatty acid ester resins, i.e., see '144, col. 5, lines 44-47.

Moreover, it is also noted that molecular weight and  $T_g$  are not one and the same. The disclosure of one does not disclose or suggest the other. Most importantly, a compound having the particular molecular weight required by Applicants does not always and necessarily have the  $T_g$  required by Applicants. That is, not all polymers of the molecular weight ranged specified by Applicants are solid at 23.9°C.

As such, Song fails to satisfy the standard for inherent anticipation. An element is inherently present when it is not specifically found in the prior device but is always present or flows naturally from what is taught there. *Levi Strauss & Co. v. Golden Trade*, 1995 WL710822\*17 (S.D.N.Y. 1995).

Accordingly, Song does not inherently disclose Applicants' required crosslinking agent (b) having a  $T_g$  of from 40 to 70°C and thus does not inherently anticipate the invention of Applicants' independent claim 1.

Second, Applicants' claimed invention requires the melt mixing of crosslinking agent (b) into a polymer (a) that comprises at least one water dispersible site per molecule. Song's disclosure of melt mixing fails to disclose this aspect of Applicants' claimed invention. Rather, Song at col. 11, lines 19-35 discloses the melt mixing of the blocked polyisocyanate crosslinking agent into an epoxy resin which appears to lack a water dispersible site.

Most importantly, however, Applicants have demonstrated that Applicants claimed process produces a patentably distinct product from that of Song. As discussed previously, Applicants' claimed invention is a product that does not require a stripping step. This contrasts with the product of Song, which clearly requires a stripping step, i.e., see '144, col. 10, lines 36-46.

It is therefore respectfully submitted that Applicants' invention of independent claim 1 is novel over the disclosures of Song. "To constitute anticipation, all material elements of the claim must be found in one prior art source." *In re Marshall*, 577 F.2d 301, 198 U.S.P.Q. 344 (C.C.P.A. 1978). This controlling standard is not met by Song.

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Reconsideration and removal of the anticipation rejection is therefore respectfully requested as to independent claim 1. Reconsideration and removal of the rejection is likewise requested as to dependent claims 3, 4, 6-8, 10-13, 16-18, 20-27, 29-31, 33-36, and 40-42, as these claims depend from independent claim 1 and incorporate all of the limitations therein.

**2. Rejection of claims 1, 3, and 5-42 under 35 U.S.C. §102(b) as anticipated by Nakaya et al, U.S. Patent 4,581,395, hereafter "Nakaya" or "395".**

A new rejection as to claims 1, 3, and 5-42 has also been set forth, based on Nakaya.

The basis of rejection is understood to be as follows:

Nakay et al disclose aqueous dispersions suitable for coating applications. These compositions are taught as comprising blocked isocyanate resins which are taught as being melt blended with an acrylic resin containing a water dispersible functional group (carboxyl).

(Office Action of 8/24/05, page 2)

Applicants greatly the detailed basis of rejection but must respectfully disagree. To constitute anticipation, all material elements of a claim must be found in one prior art source. *In re Marshall*, 198 U.S.P.Q. 344 (C.C.P.A. 1978). Nakaya fails to satisfy this standard. In particular, Nakaya fails to disclose all of the required elements of amended independent claim 1.

Claim 1 has been amended to better define the claimed invention. Support for this amendment may be found in original claim 2, now canceled and claim 3, now amended. Entry of this amendment is respectfully requested.

Further support for this amendment may be found in Applicants' Specification on page 4, paragraphs [00019] and [00018]. As indicated therein, the invention includes embodiments wherein the polymer (a) contains **saltable** groups, i.e., the embodiment of paragraph [00018], as well as embodiments wherein the polymer (a) contains **salted** groups, i.e., the embodiment of paragraph [00019]. Applicants have now amended independent claim 1 to reflect the embodiment of paragraph [00019]. No new matter has been added with this amendment.

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In contrast, Nakaya fails to disclose the melt mixing of a solid crosslinker, i.e., Nakaya's reactive compound (IV), in a polymer having at least one salted group. Rather, Nakaya discloses melt mixing of resin powder (I) and reactive compound (IV) wherein reactive compound (IV) only has saltable groups, i.e., carboxy groups. That is, Nakaya clearly teaches that salted groups are formed on resin powder (I) only after the powder of melt mixed resin powder (I)/reactive compound (IV) is added to aqueous medium containing basic compound (II).

By avoiding the need to handle a basic compound (II) in water, Applicants' product is easier to make and more efficient.

Nakaya fails to disclose all of the required elements of Applicants' amended independent claim 1. As such, Nakaya fails to anticipate the claimed invention. Reconsideration and removal of the rejection as to amended independent claim 1 is respectfully requested.

Reconsideration and removal of the rejection is likewise requested as to dependent claims 3, and 5-42, as these claims depend from independent claim 1 and incorporate all of the limitations therein.

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## CONCLUSION

Applicant(s) respectfully submit that the Application and pending claims are patentable in view of the foregoing amendments and/or remarks. A Notice of Allowance is respectfully requested. As always, the Examiner is encouraged to contact the Undersigned by telephone if direct conversation would be helpful.

Respectfully Submitted,

  
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Happy Birthday Popa  
Hello to such a wonderful man  
I hero to some  
People love you dearly  
Positive attitude helps you succeed  
You're always learning new things

Best of all I love you  
I know people think of you highly  
Retired you are, but never bored  
Time flies when I'm with you  
Helping one another you do that too  
Doing your best is what you do  
Always exploring and pushing you're self  
You make friends so easily

Proerainsaling only a little  
Open to new things  
Popa I love you  
Another year has past so much has happened

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